



PREDICTION OF COMPANY FINANCIAL DISTRESS IN INDONESIA USING FUNDAMENTAL AND INTELLECTUAL CAPITAL ANALYSIS

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Abstract

The purpose of this study is to predict the financial distress of Indonesian companies. Financial indicators such as current ratios, debt to equity, return on assets, and sales growth are used as independent variables. In addition to financial ratios, intellectual capital is also used to forecast financial distress. The results of this study show that current ratio, return on assets, and intellectual capital have a negative impact on financial distress, and that debt to equity has a positive impact on financial distress, while sales growth has an impact on financial distress.

Keywords: Financial Distress; Intellectual Capital; Financial Ratios.

INTRODUCTION

A company's profitability and financial valuation have become the focus of investors when investing. Investors need forecasts about companies in term a financial stability and profitability perspective (Lee et al., 2010; Novy-Marx, 2013). This is why predictive models of financial emergencies have become important in accounting and finance (Brüggen et al., 2009; Festa et al., 2021; Sari et al., 2018). The advantage of financial forecasting models is that companies can use current information to forecast the future. In addition, investors can also use forecast results to make investment decisions (Nawaz & Haniffa, 2017).

Financial distress are a factor that companies and investors avoid. Several financial factors such as liquidity indicators and market indicators have positive impact on the level of financial distress (Sari et al., 2018). The existence of financial distress means that investors and creditors tend to be more cautious when investing in and lending to

companies. Not all audit reports contain sufficient information, so stakeholders cannot rely solely on the auditor's information for ongoing business issues (Nadeem et al., 2016). Financial statement fraud is not uncommon in audited reports (Blay et al., 2011). Several cases of Indonesian companies such as PT Envy Technologies Indonesia in 2019, PT Hanson Internasional in 2016, and PT Asuransi Jiwasraya financial statement manipulation. Such fraud will make companies and auditors suspicious (Nadeem et al., 2017; Nadeem et al., 2016; Venuti, 2004). Therefore, the company's management should take prompt measures to overcome the problem of financial distress and prevent bankruptcy when such a situation occurs in the company.

There are several indicators and other sources of possible financial distress (E. I. Altman et al., 2019; Dirman, 2021; Sari et al., 2018; Williams, 2013). A number of studies have been conducted to determine the usefulness of analyzing financial indicators in assessing the degree of financial distress (Akpinar & Akpinar, 2017; Al-Khatib & Al-Horani, 2012; Nazaruddin & Daulay, 2019). Analytics can capture key financial figures from annual financial statements. A good financial report should provide stakeholders (investors and creditors) with information that helps them make policies and decisions regarding investments, lending, etc.

In addition to analyzing financial metrics to predict financial hardship, there are other factors that can have an impact, such as Intangible Assets (Sveiby, 1997). Tangible and intangible resources are the focus of the resource-based view (Barney, 1991). Company's competitive advantage must be based on scarce and unique resources, including employee knowledge and skills, unique production processes and intellectual property. Intellectual capital has at least three components: human capital, structural capital and customer capital (Hashim et al., 2015; Pulic, 2000). These three factors form the basis of competitive advantage and contribute more to a company's financial performance than traditional factors of production. If the company is in poor financial condition, IC contributes significantly to the company's success (Khalil, 2014; Wang et al., 2016).

To predict financial distress, the study uses financial indicators with indicators of current ratios, debt to equity ratios, return on assets, and sales growth. The selection of these indicators is based on the belief that they can generally reflect a company's financial performance and efficiency in order to predict the occurrence of financial distress. Additionally, the study uses IC to predict financial distress given its importance as a firm's competitive advantage.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Investors evaluate a company when they invest in it and look at its financial condition (Osazuwa & Che-Ahmad, 2016). If a company performs well, it becomes more attractive to investors. This corresponds to signaling theory. Signaling theory shows that an



information asymmetry exists between business executives and those interested in information. Managers are required to provide information to stakeholders through the issuance of financial statements (Sari et al., 2018). When a well-performing company gives investors a good signal about its health, seeing that company perform well leads to increased shareholder value and attracts more investors willing to invest in that company.

Current Ratio is a calculation used to determine the level of company's ability to fulfill its current liabilities with current assets. It can be used to detect the occurrence of financial distress (Kasmir, 2013). If liabilities increase faster than assets, then the ratio will decrease and this causes problems, it is possible that the pattern of the relationship between the current ratio and the probability of bankruptcy is negative. Research by Atika et al., (2013) and Santoso et al., (2018) which shows that higher current ratio indicates the decreasing probability of financial distress. If the liquidity ratio is smaller, it will increase the company's opportunities to indicate financial distress conditions. This statement supported by Lisnawati (2018) research's that showing the results that liquidity has a positive effect on financial distress. Meanwhile, research by Murni (2018) shows that the current ratio has a negative effect on financial distress conditions.

H₁: Current ratio has a negative effect on the level of financial distress.

Debt to Equity compares the amount of debt with equity (Haq & Harto, 2019). To be able to pay off the company's debt without having to sacrifice too much of the interests of the owners of capital, the company must have a low debt to equity ratio. The value of equity and the amount of debt used for the company's operational activities must be in a fairly proportional or equal amount (Muflihah & Zakiyatul, 2017). A high DER indicates that the business receives a larger proportion of debt financing than its equity funding. If the company has a high DER, or the number of current liabilities is greater than the number of current assets, it is feared that the company will have difficulty paying its debts. This can trigger financial distress. The study from Muflihah & Zakiyatul (2017) states that there is a positive and significant influence between DER and financial distress, states that DER has a positive but not significant effect on Financial Distress. On the other hand, research of Murni (2018) proves that DER has a negative effect on Financial Distress.

H₂: Debt of equity has a positive effect on the level of financial distress.

Return on assets used to calculate how much net income is obtained from each embedded company asset, the higher the return on assets, the higher the net profit generated (Horne & Warchowicz Jr, 2012). The low return on assets ratio indicates the ability of the company's assets to be less productive in generating profits, and conditions like this will

make it difficult for the company's finances to source internal funding for investment, so this will enter into a financial distress situation and can lead to the probability of bankruptcy (Purnomo, 2018). Muflihah & Zakiyatul (2017) proves that there is a positive and significant effect of ROA on Financial Distress. While Murni (2018) proves the opposite where ROA has a negative effect on Financial Distress.

H₃: Return on assets has a negative effect on the level of financial distress.

Sales Growth is a description of increasing sales from year to year (Kodongo et al., 2015). This indicator also represents economic growth and a company's ability to maintain its economic position within its industry (Kasmir, 2013). Higher the value of sales growth can be illustrated that the company has succeeded in carrying out its activities. Research by Widarjo & Setyawan (2009) proves that sales growth has no significant effect on financial distress.

H₄: Sales growth has a negative effect on the level of financial distress.

Currently, the management of intellectual capital is considered important by most companies (Chizari et al., 2016; Wang et al., 2016). If the company has IC and manages it well, it will have an impact on the market value of the company. In other words, if the capital market is efficient, investors will give higher value to companies with a higher IC value (Ardhiani & Nasih, 2019; Chizari et al., 2016; Khalil, 2014). IC is a valuable resource for competitive advantage, where IC will contribute to the company's financial performance. Company management has a big role to play in improving company performance so that company value increases and makes stakeholders, especially investors happy. Therefore, company management needs to know what things or factors are needed by the company so that the company continues to produce good performance and can minimize financial distress or the potential for bankruptcy. Nadeem et al., (2016) shows that intellectual capital has an effect on financial distress.

H₅: Intellectual Capital has a negative effect on the level of financial distress.

RESEARCH METHODS

The survey data was taken from the annual financial results of manufacturing companies listed on the Indonesian Stock Exchange (IDX) for the period 2017-2019. The sample selection refers to Altman, Haldeman, & Narayanan (1977) who classify companies that experience financial distress and non-distress through their EPS. Based on this, this study uses companies that have negative EPS values for three consecutive years and comparison companies that have positive EPS values for three consecutive years in the 2017-2019 period. The sample obtained is 20 companies consisting of 10 companies experiencing negative earnings per share for three years (distress) and 10 companies experiencing positive earnings per share for three years (non-distress).



The study uses financial indicators consisting of current ratios, debt-to-equity ratios, return on investment, and sales growth to predict financial distress (Nadeem et al., 2016; Ong et al., 2011). This study also applies the VAIC model to measure intellectual capital efficiency (Pulić, 2008).

TABLE 1. INDEPENDENT VARIABLES

Variables	Measurement
Current Ratio (CR)	Current assets/Current liability
Debt to Equity Ratio (DER)	Total liabilities/Total equity
Return On Asset (ROA)	Net incomes/Total assets
Sales Growth (SG)	This year's sales – Last year's sales/Last year's sales
Value Added Intellectual Capital (VAIC)	VACA + VAHU + STVA VACA = VA/CE *) (VA = Out-In; Out = Total income from the sale of goods/services; In = Expenses, except labor, taxes, interest, dividends, depreciation)VAHU = VA/HC STVA = SC/VA (SC = VA-HC)

Financial distress is measured by a dummy score of 0 or 1, with 1 if the company fails and 0 otherwise. This measurement follows several previous studies such as (Al-Khatib & Al-Horani, 2012; Alifiah, 2014; Alifiah et al., 2013; Nadeem et al., 2016). Additionally, this study used logistic regression for data analysis. Using this method of analysis, the coefficients of the independent variables are used to predict the probabilities of the dependent variable (Alifiah et al., 2013).

RESULT AND DISCUSSION

Logistics analysis is carried out through several stages to evaluate the impact of a number of independent variables on the probability that the company will run into financial distress.

Chi-Square	Sig
6,421	0,703

The test of Hosmer and Lemeshow goodness of fit show a chi-square value of 6.412 and a significance value of 0.703. Based on these tests, a hypothetical model is shown to fit the data and is therefore used for further analysis.

Observed	Non Distress	Distress	Percentage Correct (%)
Non Distress	53	7	88,3
Distress	8	52	86,7
Overall Percentage			87,5

This model has a percentage correct of 87.5%. This value indicates a high level of accuracy to continue the next test.

Variable	Coefficient	Wald	P-Value
CR	-.687	.513	.003
ROA	-1.397	.926	.000
DER	.144	.170	.000
SG	1.116	.709	.125
VAIC	-1.469	1.390	.000

The results of the logistic analysis test show that the coefficient value of CR is -0.687, which is significant at 0.003, suggesting that the variable current ratio has a significant negative impact on financial distress. This demonstrates our ability to meet our near-term commitment to ensure the availability of working capital to support company's business to achieve expected returns (Hanafi, 2004; Kasmir, 2013). Having sufficient cash available helps the company to fund various business activities. But if the company is short of funds, the opposite happens. This shows that the more cash a company has, the less likely it is to run into financial trouble, and vice versa. The results of this study are consistent with Fatmawati & Wahidahwati (2017) and Purnomo (2018), which states that CR has a significant impact on financial distress.

ROA has a significant coefficient of -1.397 at 0.000. This means that return on assets has a significant negative impact on financial distress. ROA can be viewed as the level of profitability of the company. Higher ROA indicates higher income growth activity. In line with this statement, the results of the analysis show that higher the ROA, the lower the financial distress, vice versa. The results support Fatmawati & Wahidahwati (2017), which states that there is a significant correlation between ROA and financial distress.

The coefficient for DER is 0.144, which is significant at 0.000, meaning that debt to equity ratio has a significant positive effect on financial distress. DER is a ratio used to value debt. This ratio helps to know how much money the borrower (creditor) has provided to the company owner. For companies, smaller DER is better (Sudjiman & Sudjiman, 2017). The more a company's activities are financed by debt, the greater the likelihood of financial distress as the company is obligated to repay the debt. With a higher DER, the risks faced by the company are also higher in terms of fixed costs, i.e. loan capital and interest expense. A high DER reflects that a company's capital adequacy level cannot guarantee its debt, so the possibility of the company run into financial distress is higher. The results support Muflihah & Zakiyatul (2017) study, which states that DER has a large positive impact on financial distress.

The coefficient value for profit growth is 1.116, which is significant at 0.125. In other words, revenue growth will not have a significant impact on financial distress. Revenue growth is used to measure a company's revenue growth. Revenue growth reflects the



company's ability to increase revenue over time. Rapid growth in sales is not always easily impacted, so the net profit generated is marginal, misses the target, and can even be negative (Dianova & Nahumury, 2019). This may affect the company's financial position and financial difficulties can be considered in the future. This study is consistent with studies Giarto & Fachrurrozie (2020) and Dianova & Nahumury (2019) that showing that increased earnings do not affect financial distress.

IC has a coefficient value of -1.469 and is significant at 0.000 which means that Intellectual Capital has a significant negative effect on Financial Distress. IC is a source of intellectual property, information, intellectual property and experience from internal parties and members within the company that can be used to improve performance and increase company assets (Ardhiani & Nasih, 2019; Istikhoroh et al., 2022). When the company can manage its intellectual capital resources, they will have good IC performance and the possibility of the company run into financial distress decreases (Altman et al., 2019). IC management will make the company survive in the long term and provide more benefits than just doing business activities to generate profits (Bontis, 1999; Dumay, 2012). They also can compete with other companies. The value added and efficiency of IC management will unite the micro and macro levels of the economy. When the company can maintain its performance in generating profits and the structure and strategy of the company is strong, they will survive and avoid financial distress.

CONCLUSION

The study proves that current ratio, return on assets, and intellectual capital have a negative impact on financial distress, while debt to capital has a positive impact on financial distress. On the other hand, based on the analysis results, we found that revenue growth did not affect the financial distress. The results of this study are useful to administrators because research models can be used to predict financial distress. The results can also be used by investors to predict a company's sustainability before making an investment decision. In addition, this study of future research on financial forecasting models can incorporate intellectual capital into research models.

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